

an optical fiber feed means which feeds said optical fiber during the wiring operation into said optical fiber path of said wiring head;

an optical fiber contacting means, which brings said optical fiber, which has been guided to said lead end of said wiring head via said optical fiber path, and said wiring substrate into contact, wherein the optical fiber contacting means includes an optical fiber pressing means for pressing said optical fiber against said wiring substrate with a predetermined pressure;

an XY movement means, which moves said wiring substrate and said wiring head relative to one another in the X and Y directions in the state in which said optical fiber at said lead end of said wiring head has been placed in contact with said wiring substrate by said optical fiber contacting means; and

an optical fiber affixing means, which successively affixes, to said wiring substrate, said optical fiber which has been brought into contact with said wiring substrate during movement by said XY movement means,

wherein in the wheel-less wiring head, a pressure groove connected to said guide groove is formed with a radius of curvature larger than the radius of curvature at which said optical fiber breaks, so as to support the optical fiber in a state in which it is bent by a fixed amount and is pressed onto said wiring substrate.

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23. (Three Times Amended) An optical fiber wiring method which employs an optical fiber wiring apparatus which is provided with a wiring substrate, a wheel-less wiring head which is provided with an optical fiber path which guides an optical fiber to a

lead end thereof and which applies said optical fiber guided to said lead end to said wiring substrate with a predetermined pressure, and an optical fiber feeding means which feeds stocked optical fiber, which apparatus moves said wiring substrate and said wiring head relative to one another in the XY directions and conducts a wiring operation which forms a predetermined optical fiber wiring pattern on said wiring substrate, comprising:

at the initiation of wiring, moving said wiring head to a wiring initiation position,

and

*C 2 cont.* in the state in which said optical fiber has been guided to said lead end of said wiring head along a guide groove formed in the wiring head, pressing said optical fiber against said wiring substrate with said predetermined pressure,

wherein said wiring head is moved along said wiring pattern with respect to said wiring substrate, the required optical fiber is fed into said optical fiber path of said wiring head by said optical fiber feeding means, and wiring is conducted; and

in the wheel-less wiring head, said optical fiber is supported by a pressure groove in a state in which it is bent by a fixed amount and is pressed onto said wiring substrate, where said pressure groove is connected to said guide groove and is formed with a radius of curvature larger than the radius of curvature at which said optical fiber breaks.

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